

REMARKS

In response to the above-identified Office Action, Applicants amend the Application and seek reconsideration thereof. In this response, Applicants amend claims 1-2 and 7-8, but do not cancel any claims. In addition, Applicants add new claims 13-20. Accordingly, claims 1-20 are pending.

I. Background of the Invention

The invention defined by claims 1-20 allows a manufacturer to improve the safety of a fluorescent light. Prior fluorescent lights include a switching device that is located away from the choke coil. In these devices, when a blow out occurs electrical current is not stopped from flowing within the light, presenting a dangerous situation for the user. By contrast, the current invention orients the switching device close to the choke coil and/or includes a smoothing capacitor to stop the flow of electrical current within the fluorescent light when a blowout occurs. The switching device is oriented such that heat is transferred from the choking coil to the switching device when a blowout occurs. After blow out, the amount of heat eventually transferred to the switching device exceeds the switching device's temperature threshold and the switching device fails, effectively stopping the flow of electrical current within the fluorescent light.

Furthermore, a smoothing capacitor may be either directly connected to the choke coil or proximate to the choke coil via one or more leads. When a blow out occurs, heat transferred to the smoothing capacitor eventually exceeds the operating temperature of the smoothing capacitor and the smoothing capacitor will break. When the smoothing capacitor breaks, the power supply to the switching device becomes unstable causing the switching device to break, effectively

stopping current from flowing within the fluorescent light. Notably, the invention may include both of the above features so that the fluorescent light includes two safety features.

To accomplish this, “a switching device (nMOS-FET56) is mounted to the lighting unit 50 so that the entire device main body of the switching device faces the choke coil 52, with the print substrate 51 therebetween” (See page 6, lines 13-18; page 20, line 4-14; and FIG.2B of Applicants’ specification). Because of this positioning, the driving apparatus and the compact self-ballasted fluorescent lamp of the present invention have safety advantages over prior fluorescent lamps. Specifically, “when the lamp causes non-emission state, either the nMOS-FET device 56 or the electrolytic capacitor device 53 is broken, due to heat generated at the choke coil 52 in addition to increase in electric current running in the circuit as mentioned above, thereby stopping the glow discharge at the electrodes 11 and 12 of the arc tube 10.” (Applicants’ specification page 27, lines 6-13). Accordingly, when the arc tube of the present invention has lapsed into a non-emission state, the glow discharge is stopped swiftly which means that the present invention exhibits a high degree of safety.

I. Claims Rejected Under 35 U.S.C. § 102

The Office Action rejects claims 1, 2 and 8 under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,577,066 issued to Kominanmi et al. (“*Kominami*”). Applicants amend claim 1.

To anticipate a claim, the cited reference must teach every element of the rejected claim. Among other elements, claim 1 defines a driving apparatus for a fluorescent lamp comprising a “switching device, wherein the entire main body of the switching device is oriented on the

second main surface directly opposite the choke coil” (emphasis added). Applicants submit *Kominami* fails to teach at least these elements of claim 1.

In making the rejection, the Office Action characterizes *Kominami* as disclosing “a switching device (8, 9) that is mounted to the second main surface (6b), so as to be opposed to the choke coil (7)” (Paper No. 05252005, page 2). In reviewing *Kominami*, Applicants submit *Kominami* discloses a fluorescent lamp wherein a choke coil (reference number 7) and an inverter IC (reference number 17) are not positioned directly opposite one another. Specifically, *Kominami* orients these components away from the choke coil to minimize the thermal influence of the two FETs (reference numbers 8 and 9) on the choke coil (See *Kominami* Col., 5, lines 14-45). Moreover, *Kominami* states that “the inverter driving IC 17 is required to be disposed in an area other than the area on the reverse face 6b corresponding to an area of the upper face 6a of the printed circuit board 6 where the choke coil 7 is disposed” (Col. 5, lines 35-39, emphasis added). Therefore, Applicants submit *Kominami* teaches away from Applicants’ fluorescent lamp, as defined in claim 1, since it is the thermal exchange between the choke coil and the switching device that provides a safety feature of Applicants’ fluorescent lamp and *Kominami* clearly teaches an orientation opposed to this safety-feature construction.

Furthermore, the disclosure in *Kominami* (including the figures) fails to discuss and/or illustrate any lead portions of the devices. Instead, *Kominami* is primarily concerned with the main body of the choke coil and the inverter IC. Therefore, *Kominami* additionally fails to disclose leads transferring heat to provide a safety feature as recited in claim 1.

As opposed to this, the present invention has a structure in which the entire device main body of the switching device faces the choke coil, with the print substrate therebetween. By disposing the entire device main body of the switching device in this manner, the present

invention achieves an indispensable feature of assuring safety in case of a non-emission state. In this way, the present invention has a characteristic for attempting to solve the problem that is clearly distinct from the cited reference of *Kominami*.

For at least the reasons discussed above, *Kominami* fails to disclose all of the elements of claim 1. Therefore, claim 1 is not anticipated by *Kominami*. Accordingly, Applicants respectfully request withdrawal of the rejection of claim 1.

Claim 2 depends from claim 1 and includes all of the elements thereof. Therefore, Applicants submit claim 2 is not anticipated by *Kominami* at least for the same reasons as claim 1, in addition to its own respective features. Accordingly, Applicants respectfully request withdrawal of the rejection of claim 2.

Regarding the rejection of claim 8, claim 8 depends from claim 7 and includes all of the elements thereof. Applicants submit claim 7 recites the elements of a “switching device, wherein the entire main body of the switching device is oriented on the second main surface directly opposite to the choke coil” similar to claim 1 discussed above. Therefore, Applicants submit the discussion above regarding *Kominami* failing to teach similar elements recited in claim 1 is equally applicable to claim 8. Therefore, *Kominami* fails to teach all of the elements of claim 8. Accordingly, Applicants respectfully request withdrawal of the rejection of claim 8.

II. Claims Rejected Under 35 U.S.C. § 103

The Office Action rejects claims 6-7 and 12 under 35 U.S.C. § 103(a) as being obvious over *Kominami* in view of U.S. Patent Application Publication No. 2005/0068775) filed by Iida (“*Iida*”). Applicants amend claims 1 and 7.

Notably, Applicants submit claim 7 recites the elements of a “switching device, wherein the entire main body of the switching device is oriented on the second main surface directly opposite to the choke coil” similar to claim 1 discussed above. In addition, Applicants submit claims 6 and 12, because of their dependence on claims 1 and 7, respectively, each recite these same elements.

To render a claim obvious, the cited references, either individually or in combination, must teach or suggest all of the elements of the rejected claim. Moreover, the Court of Appeals for the Federal Circuit stated:

Most, if not all inventions, arise from a combination of old elements... Thus, every element of a claimed invention may often be found in the prior art... However, identification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention... Rather, to establish obviousness based on a combination of elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the applicant... Even when obviousness is based on a single reference, there must be a showing of a suggestion or motivation to modify the teachings of that reference... The motivation, suggestion or teaching may come explicitly from statements in the prior art, the knowledge of one of ordinary skill in the art, or, in some cases the nature of the problem to be solved...(In re Kotzab, 55 USPQ2d, 1313 (Fed. Cir. 2000)).

In making the rejection, the Office Action characterizes *Kominami* similar to the anticipation rejection discussed above. Applicants have discussed *Kominami* and submit the discussion above regarding *Kominami* failing to teach or suggest at least a “switching device, wherein the entire main body of the switching device is oriented on the second main surface directly opposite to the choke coil” is equally applicable to the obviousness rejection of claims 6-7 and 12. Therefore, *Kominami* fails to teach or suggest all of the elements of claims 6-7 and 12.

The Examiner relies on *Iida* to cure the defects of *Kominami*, however, Applicants submit *Iida* fails to cure such defects.

The Office Action characterizes *Iida* as showing an “arc tube that has a double-spiral” (Paper No. 05252005, page 3 citing Figure 1). Applicants submit *Iida* discloses “a compact self-ballasted fluorescent lamp that includes a bent arc tube, and a manufacturing method for the arc tube” (Paragraph [0001]). Thus, Applicants submit *Iida* is primarily concerned with the tube aspects of the fluorescent lamp, and not with safety features pertaining to current flow within the fluorescent lamp. Furthermore, the Office Action does not cite *Iida* as disclosing a “switching device, wherein the entire main body of the switching device is oriented on the second main surface directly opposite to the choke coil.” Likewise, in reviewing *Iida* in its entirety, Applicants are unable to discern any sections that teach or suggest a “switching device, wherein the entire main body of the switching device is oriented on the second main surface directly opposite to the choke coil” as recited in claims 6-7 and 12. Therefore, the combination of *Kominami* and *Iida* fails to teach or suggest all of the elements of claims 6-7 and 12.

The failure of *Kominami* in view of *Iida* to teach or suggest all of the elements of claims 6-7 and 12 is fatal to the obviousness rejection. Therefore, claims 6-7 and 12 are not obvious over *Kominami* in view of *Iida*. Accordingly, Applicants respectfully request withdrawal of the rejection of claims 6-7 and 12.

The Office Action rejects claims 5 and 11 under 35 U.S.C. § 103(a) as being obvious over *Kominami* in view of U.S. Patent Application Publication No. 2004/0005820) filed by Gutierrez (“*Gutierrez*”). Applicants amend claims 1 and 7.

Notably, claims 5 and 11 depend from claims 1 and 7, respectively, and include all of the elements thereof. Therefore, claims 5 and 11 each recite the elements of a “switching device,

wherein the entire main body of the switching device is oriented on the second main surface directly opposite to the choke coil.” Applicants submit *Kominami* in view of *Gutierrez* fails to teach or suggest at least these elements of claims 5 and 11.

In making the rejection, the Office Action characterizes *Kominami* similar to the rejections discussed above. Applicants have discussed *Kominami* and submit the discussion above regarding *Kominami* failing to teach or suggest at least a “switching device, wherein the entire main body of the switching device is oriented on the second main surface directly opposite to the choke coil” is equally applicable to the obviousness rejection of claims 5 and 11. Therefore, *Kominami* fails to teach or suggest all of the elements of claims 5 and 11. The Examiner relies on *Gutierrez* to cure the defects of *Kominami*, however, Applicants submit *Gutierrez* fails to cure such defects.

In making the rejection, the Office Action characterizes *Gutierrez* as showing an electronic devices having “an angle in a range larger than 0 degrees and smaller than 90 degrees, with respect to a mounting orientation of the choke coil, and a lead portion of the electronic device having the angle is processed to be bent towards a center of the first main surface (Paper No. 05252005, page 4). Applicants submit *Gutierrez* discloses a “design and method of manufacturing a single- or multi-connector assembly which may include internal electronic components” (Paragraph [0003]). Thus, Applicants submit *Gutierrez* is primarily concerned with an electronic connector, and not with the safety features pertaining to current flow within the fluorescent lamp. Furthermore, the Office Action does not cite *Gutierrez* as disclosing a “switching device, wherein the entire main body of the switching device is oriented on the second main surface directly opposite to the choke coil.” Likewise, in reviewing *Gutierrez* in its entirety, Applicants are unable to discern any sections that teach or suggest a “switching device,

wherein the entire main body of the switching device is oriented on the second main surface directly opposite to the choke coil” as recited in claims 5 and 11. Therefore, the combination of *Kominami* and *Gutierrez* fails to teach or suggest all of the elements of claims 5 and 11.

The failure of *Kominami* in view of *Gutierrez* to teach or suggest all of the elements of claims 5 and 11 is fatal to the obviousness rejection. Therefore, claims 5 and 11 are not obvious over *Kominami* in view of *Gutierrez*. Accordingly, Applicants respectfully request withdrawal of the rejection of claims 5 and 11.

II. New Claims

Applicants add new claims 13-20, and submit these claims are in condition for allowance at least for the same reasons as claims 1-12 discussed above in addition to their own respective features.

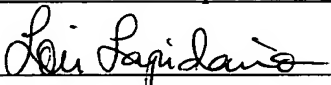
III. Allowable Claims

Applicants note with appreciation the Office Action’s indication that claims 3-4, and 9-10 would be allowable if rewritten in independent form including the limitations of the base claims any intervening claims. However, in view of the above discussion, Applicants believe these claims are in condition for allowance without needing to be rewritten.

CONCLUSION

In view of the foregoing, it is believed that all claims now pending are in condition for allowance. A Notice of Allowance is earnestly solicited at the earliest possible date. If the Office Action believes that a telephone conference would be useful in moving the application forward to allowance, the Examiner is encouraged to contact the undersigned at (714) 427-7420.

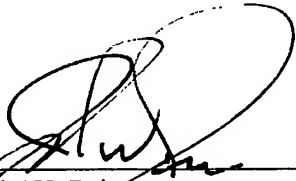
I hereby certify that this correspondence is being sent via First Class Mail with correct postage to Mail Stop AMENDMENT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on August 26, 2005.

By: Lori Lapidario

Signature

Dated: August 26, 2005

Very truly yours,

SNELL & WILMER L.L.P.



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